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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,693	05/24/2004	RYAN THOMAS BECHARD		3692
37054	7590	02/09/2006		
RYAN T. BECHARD 6539 50TH AVE. CHIPPEWA FALLS, WI 54729			EXAMINER COCKS, JOSIAH C	
			ART UNIT 3749	PAPER NUMBER

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/709,693	<b>Applicant(s)</b> BECHARD, RYAN THOMAS	
	<b>Examiner</b> Josiah Cocks	<b>Art Unit</b> 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination ("RCE") under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission of an RCE and amendment filed on 12/30/2005 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 39 recites the limitation "the first cavity" in line 3. There is insufficient antecedent basis for this limitation in the claim. It appears applicant intended claim 39 to be dependent upon claim 37, which introduces a first cavity, instead of claim 35 and has been considered as such for the purpose of an examination on the merits.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 21-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,156,139 to Wilson Jr. ("Wilson") in view of U.S. Patent No. 2,976,918 to Leach ("Leach")(previously cited) and U.S. Patent No. 5,067,894 to Bender ("Bender").

Wilson discloses in the specification and Figs. 1-4 a method of operating an oil burner and an oil burner assembly in the same field of endeavor as applicant's invention and similar to that described in applicant's claims 21-39. In particular, Wilson shows an oil burner having a manifold constructed of a thermally transmissive material (see abstract), first (22), second (14), and third (16) internal passageways, and a supported nozzle (8) having an oil distribution port and an atomizing port (see at least col. 2, lines 46-52). Source of oil and pressurized air are connected to the first (22) and third (16) passageways respectively and are arranged such that the air and oil are heated by a heating element arranged in the second passageway (14) (see col. 5, lines 47-48) before being discharged from the nozzle (8) (see at least col. 6, lines 28-42). The structural arrangement of the passageways, cavities and the nozzle ports are shown as recited in applicant's claims (see at least Fig. 2).

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In regard to the recitation of a seal isolating the heated oil (e.g. claims 32 and 39), passageway (22) carrying the heated oil in Wilson is considered to be sealed as recited (see at least col. 6, lines 10-27).

In regard to claims 23, 25-27, and 37, as shown, particularly in Figs. 1 and 2, the passageways are considered to be arranged in tiers as recited. Further, the undulations of passageway (22) are considered to represent the convoluted and riser portions recited.

In regard to the recitation of a plurality of atomizing ports (e.g. claim 28), to have included additional atomizing ports would be simply a matter of duplicating the atomizing port of Wilson and is not regarded to patentably distinguish applicant's invention. See MPEP 2144.04(VI)(B).

In regard to claims 28 and 29, to have selected a specific spray pattern of the nozzle (i.e. conical or spiral) would be simply a matter of optimizing the spray pattern produced by nozzle of Wilson. Such optimization is within the skill or one of ordinary skill in the art and would be accomplished through routine experimentation. See MPEP 2144.05(II)(A). Accordingly, these recitations in the claims are not regarded as patentably distinct.

Wilson possibly does not explicitly show an igniter or step of igniting, a fan and oil pump arrangement, and does not show a source of heated liquid provided to the second passageway.

In regard to the recitation of an igniter and the step of igniting, the nozzle of Wilson is clearly indicated to create a flame (e.g. see abstract), however, there is no detail as to what effects the create of a flame. It is well understood in the art that ignition is provided for the nozzle of an oil burner via an igniter mounted adjacent the nozzle exit. Support for this assertion is found in the reference to Bender. Bender teaches an oil burner assembly in the same field of

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endeavor as both applicant's invention and Wilson. In Bender, the oil is ignited from a nozzle via an adjacent igniter (107). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the igniter of Bender in the burner of Wilson to desirably ignite the fuel and air mixture as it is sprayed from the nozzle (see Bender, col. 3, lines 21-23).

Bender also clearly shows the presence of a fan/turbine (108) and an oil pump (110). It would have been obvious to a person of ordinary skill in the art to modify the oil burner assembly of Wilson to incorporate a fan and oil pump as taught in Bender for the desirable purpose of providing the air and oil to the burner assembly under pressure (see Bender, col. 2, lines 53-55 and col. 3, lines 22-45).

In regard to claims 28 and 29, to have selected a specific spray pattern of the nozzle (i.e. conical or spiral) would be simply a matter of optimizing the spray pattern produced by nozzle of either Wilson or Bender. Bender in particular notes that the oil is providing in a helical distribution (see col. 4, lines 39). Such optimization is within the skill or one of ordinary skill in the art and would be accomplished through routine experimentation. See MPEP 2144.05(II)(A). Accordingly, these recitations in the claims are not regarded as patentably distinct.

In regard to the recitation in the claims of a source of heated liquid and step of providing the heated liquid to the second passageway. In Wilson, a passageway is shown that receives a heating element but does not go into further detail as to the particulars of this heating element. Leach teaches an oil burner assembly in the same field of endeavor as both applicant's invention and Wilson. In Leach, shows a device (10) for preheating heavy oil in a oil burning system (burner 100 and furnace 101) and method of preheating the oil that includes a body (12) made of

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thermally conductive material and includes an oil passageway (34, 39) and a liquid passageway (interior of housing 12) in which, heated in tank (67) is supplied via line (66). Oil passing through the oil passageways is heated in order to prevent the oil from becoming too thick to properly flow to the combustion assembly (see col. 1, lines 18-47).

Therefore, in regard to claims 21-39 it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the oil heating device of Wilson to incorporate a heating means that includes a heating liquid as taught in Leach to desirably provide a oil preheating device that is simple in construction and efficient in operation (see Leach, col. 1, lines 43-47). Leach specifically notes that an adjacent electrical or gas heating unit (such as what appears to be present in Wilson) has a possible disadvantage of not being able to heat the oil uniformly (see Leach, col. 1, lines 27-35). Accordingly, a person of ordinary skill in the art would reasonably modify the heating element of Wilson to include a heated liquid passageway arrangement in the passageway structure (14) of Wilson to obtain the uniform oil heating benefit that, as noted above, is recognized in the art to be simple in construction and efficient in operation.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 21-39 have been considered but are moot in view of the new ground(s) of rejection.

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***Conclusion***


7. This action is made non-final. A THREE (3) MONTH shortened statutory period for reply has been set. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on weekdays from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at (571) 272-4828. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Any questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

jcc  
February 2, 2006

  
JOSIAH COCKS  
PRIMARY EXAMINER  
ART UNIT 3749